GETTING STARTED

A New User's Guide

FLUKE

G E T T I N G S T A R T E D

A New User's Guide

1780A

INFOTOUCH®
DISPLAY

FLUKE

CONTENTS

This booklet will assist you in becoming familiar with the Fluke 1780A InfoTouch® Display. With this manual, you will learn how identify product features, activate the unit, and communicate with a host computer.

For more complete and advanced information, refer to the How to Use These Manuals section of this guide.

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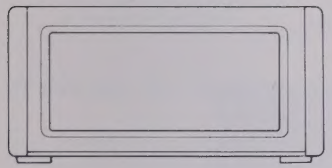
MEET THE 1780A INFOTOUCH DISPLAY



Your 1780A InfoTouch® Display is an extremely flexible and easy to use operator interface to a system. The Touch-Sensitive Display allows you to design a friendly system which can lead an operator step by step through a complex process. Here are a few of the important features:

- Connects to any host computer with an RS-232C serial interface.
- Displays standard ASCII characters, plus eleven graphics characters. You can optionally create your own character set, too.
- Display attributes and controls, including double size characters, high intensity, underlining, blinking, reverse image, full cursor control and erasing.
- A touch-sensitive display with 60 distinct finger-tip size selection areas allows you to design a dynamic software-defined operator keypad.

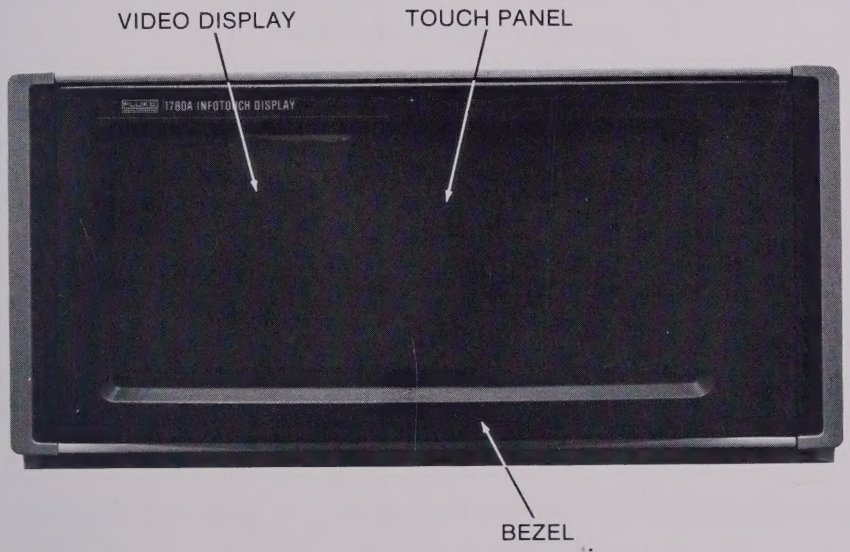
This manual will introduce you to the 1780A, and help you become familiar with its basic capabilities. Welcome to the new generation of operator interfacing!

THE DISPLAY

Note the following items:

Video Display	Cathode ray tube (CRT) providing 16 lines with 80 characters per line.
Bezel	Acts as the "picture frame" surrounding the display.
Touch Panel	Provides 10 columns by 6 rows of individual touch keys over the face of the video display.

THE DISPLAY

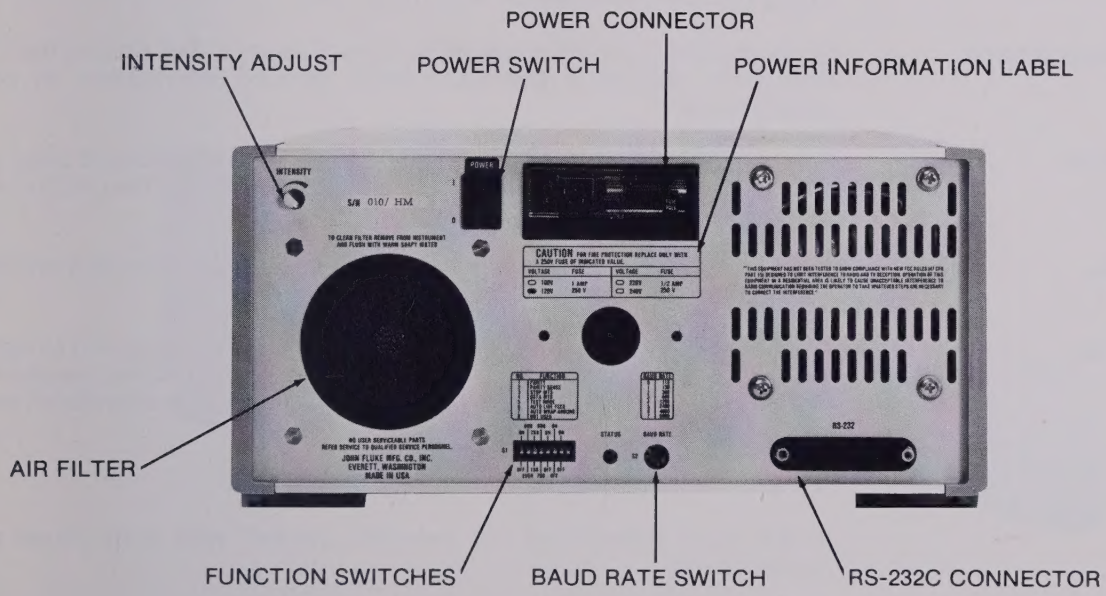


THE REAR PANEL

Locate the following items:

Power Information Label	Contains power information. Check for compatibility with local line power.
Power Cord	Connects 1780A to line power.
Power Switch	Turns the 1780A on or off.
Air Filter	Filters dust from incoming air. Allow adequate clearance behind 1780A for cooling.
Intensity Adjust	Increases or decreases video display intensity.
RS-232C Connector	Interfaces 1780A to host computer with industry standard RS-232C.
Function Switches	Configures RS-232C communications characteristics. Also can set 1780A into test mode.
Baud Rate Switch	Selects RS-232C communications data rate. When 1780A is in test mode, this switch selects the test function.

THE REAR PANEL



TURNING THE 1780A ON

Check that the power switch is set to "0" (off).

Connect to a Power Source

Connect power cord to the rear panel, then to power outlet. Refer to the 1780A Instruction Manual if you need more detailed information on power requirements.

Turn the 1780A On

Set the power switch to the "1" position (on). The 1780A should beep and a blinking cursor should appear in the upper left corner after the display warms up (about 15 seconds).

Set to Test Mode

Set function switch #5 to the ON position (up). Set baud rate switch to position 4. The display should show the 60 touch positions.

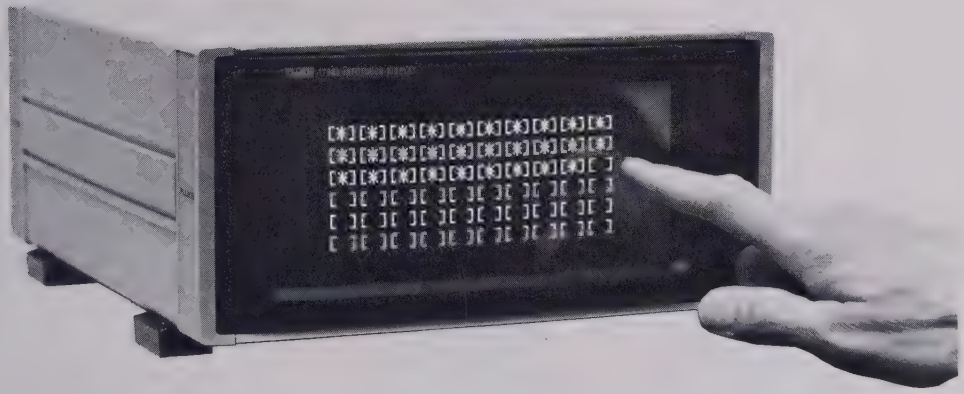
Touch the Display

Starting from the upper left corner, touch each position from left to right on each row. Each successive position touched will respond with a beep and a "*" character being displayed. Note that the positions must be activated in proper left-to-right order.

NOTE

If the touch panel does not respond, consult your local Fluke sales representative.

TURNING THE 1780A ON

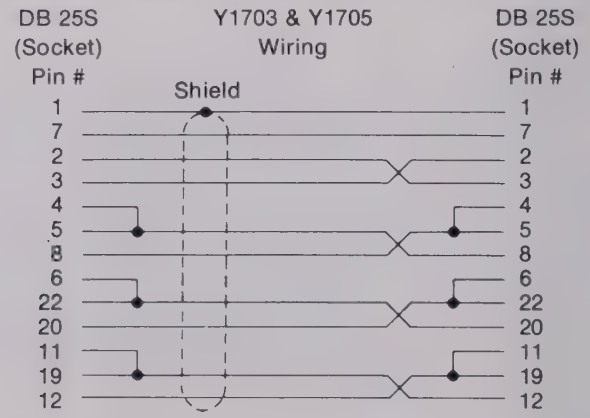


CONNECTING THE 1780A TO A HOST COMPUTER

Obtain RS-232C Cable

Obtain an RS-232C "null modem" cable (Fluke part Y1703 or Y1705).

RS-232 "NULL MODEM" Cable Wiring



Connect Between 1780A and the Host

Plug the null modem cable into the RS-232C connector on the back of the 1780A. Connect the other end to the host computer.

CONNECTING THE 1780A TO A HOST COMPUTER

Configure Host Computer

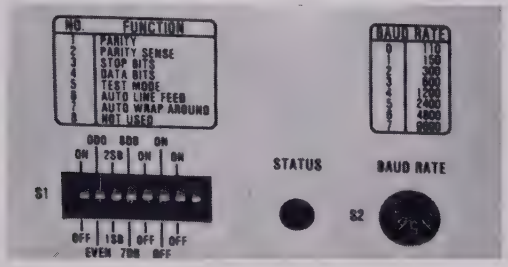
Set parity, stop bits, data bits, and baud rate characteristics on the host computer RS-232C interface. Be sure the host computer recognizes "carriage return" (ASCII character 13) as the end of line character received from input over the RS-232C.

Configure 1780A

Match the characteristics set on the host computer using the table on the back of the 1780A.

NOTE

Be sure the Test Mode switch (function switch #5) is "off".



COMMUNICATING WITH THE HOST COMPUTER

Sending Text to the 1780A

The host computer sends ASCII characters directly to the 1780A in order to display text or graphics characters. For example, in order for you to display the letter "A" on the 1780A, the host computer must send the decimal number 65 over the RS-232C interface.

Terminal Control Characters

Cursor positioning, display attributes (such as underlining), display erasure, etc. are all controlled from the host computer by sending ANSI control sequences. For example, in order for you to move the cursor to line 4, column 20 of the display, the host computer must send the following string of ASCII characters (which comprise an ANSI control sequence):

⟨ESCAPE⟩ [4 ; 2 0 H

Note - ⟨ESCAPE⟩ is decimal ASCII character 27.

Receiving Touch Input Signals From the 1780A

When the 1780A screen is touched, it sends an ANSI control sequence over the RS-232C interface to the host computer. For example, if you touch position 10 on the touch sensitive overlay, the 1780A will immediately send the following ASCII string to the host:

ESCAPE [0 1 0 z ⟨CARRIAGE RETURN⟩

Note - ⟨CARRIAGE RETURN⟩ is decimal ASCII character 13.

A SAMPLE PROGRAM

If you are using a 1720A or a 1722A as the host computer then enter the following program directly in the BASIC editing mode. If you are using another computer as host, you will have to translate the BASIC commands to run in your system.

Open a Channel to the 1780A

Be sure that the 1780A is connected to RS-232C port 1 (KB1:). Enter the following:

```
10 OPEN 'KB1:' AS NEW FILE 1     (Open output channel 1)
20 OPEN 'KB1:' AS OLD FILE 2     (Open input channel 2)
```

Set TSO Report Interrupt

When the touch sensitive overlay is touched, it will send a string of ASCII characters over the RS-232C port. A software interrupt must be specified to respond to the 1780A. Enter the following:

```
30 ON #2 GOTO 500 (Respond to channel 2 interrupt)
```

A SAMPLE PROGRAM

Print Value of Touched Position to the 1780A

The host computer can print the value of the touched position to the 1780A. Enter the following:

```
40 K$="00"                          'Initialize TSO key value)
50 PRINT #1, CHR$(27)+"[1,1H", (Put cursor to line 1, column 1)
60 PRINT #1, K$                     (Send TSO key value)
70 GOTO 50                          (Loop program)
```

Input TSO Key Value

An interrupt routine will input the string of ASCII characters sent by the 1780A. From that sequence, the value of the touched key can be determined. Enter the following:

```
500 INPUT #2, IN$                   (Input string from 1780A)
510 K$=MID$(IN$,4%,2%)              (Strip out TSO key value)
520 RESUME                          (Continue main program routine)
```

Run the Program

Now enter the execution mode and type "RUN." The 1780A should display the value of the touched key in the upper left corner. If no key has been touched, 00 will be displayed.

THE MANUAL SET

Your 1780A comes equipped with two manuals and a programming worksheet. The following description gives you an idea of what each contains.

1780A Getting Started Guide

This short tutorial helps the new user become familiar with the operation of the 1780A, including setting up the host computer communications interface and the transmission and reception of information between the 1780A and the host.

1780A Instruction Manual

This manual provides complete information for communicating with the 1780A as well as complete descriptions of hardware, maintenance procedures, and options and accessories.

Programming Worksheet

Included with the manual is a programming worksheet. The worksheet provides a template of the 1780A screen, including each character cell and each of the 60 touch positions. You can use this worksheet to easily design character displays with designated touch areas.

HOW TO USE THESE MANUALS

Are You New to This?

In order to familiarize yourself with the 1780A, this Getting Started manual will provide you with a simple step by step procedure for getting online with the your host computer. After this exercise, it would be advisable to carefully read the contents of the 1780A Instruction Manual prior to any full scale programming effort.

Are You an Experienced User?

If you are already familiar with the 1780A or other video display terminals, the 1780A Instruction Manual will provide you with the necessary information to assist you with your programming and system integration efforts.

Are You Evaluating the 1780A?

The 1780A Instruction Manual provides complete specification information. With the assistance of your Fluke Sales Engineer or Fluke Representative, this information will help you determine if the 1780A is appropriate for your application. Also, ask your Sales Engineer about available options and special configurations to tailor the 1780A to your specific needs.